

H. SCIENCE IN SOCIAL AND PERSONAL PERSPECTIVES

<p>Content Standard: Students in Wisconsin will use scientific information and skills to make decisions about themselves, Wisconsin, and the world in which they live.</p> <p>Rationale: An important purpose of science education is to give students a means to understand and act on personal, economic, social, political, and international issues. Knowledge and methodology of the earth and space, life and environmental, and physical sciences facilitate analysis of topics related to personal health, environment, and management of resources, and help evaluate the merits of alternative courses of action.</p>			
Performance Standards: By the end of grade four students will:	Sample Alternate Performance Indicators: (1-3 per standard)	Sample Performance Activities/Tasks: (1-2 per indicator)	Sources of Data
H.4.1. Describe how science and technology have helped, and in some cases hindered, progress in providing better food, more rapid information, quicker and safer transportation, and more effective health care[2]	1. Describe how science and technology have helped progress [2] 2. Describe how science and technology have hindered progress[2]	1.a. Draw a picture to show how (2) 2.a. Draw a picture to show how technology hindered progress in a chosen area(2)	
H.4.2. Using the science themes, identify local and state issues that are helped by science and technology, and explain how science and technology can also cause a problem[2]	1. Identify an issue at the state or local level[2] 2. Illustrate how science and technology helps a chosen issue[2] 3. Illustrate how science and technology can cause a problem[2]	1.a. Gather a variety of local and state issues from resources (e.g., television, newspapers, and people)(2) 2.a. Research an issue using television, newspapers, and native language sources to discover and record how science or technology helped it(3) 3.a. Research an issue using television, newspapers, and native language sources to discover and record how science or technology caused it(3)	
H.4.3. Show how science has contributed to meeting personal needs, including hygiene, nutrition, exercise, safety, and health care[1]	1. Identify personal needs[1] 2. Show how science can contribute to personal needs[2]	1.a. List personal needs(1) 2.a. Brainstorm and record how science can contribute to personal needs(2)	

	3. Show how science has contributed to[2]	3.a. Draw pictures or bring examples of science or technology the students use in daily life(2)	
H.4.4. Develop a list of issues that citizens must make decisions about and describe a strategy for becoming informed about the science behind these issues[2]	1. Develop a list of issues about which citizens must make decisions [2] 2. Describe a strategy for becoming informed about the science behind these issues[2/3]	1.a. Make a chart of science-related issues (2) 2.a. List resources to find information about a chosen issue(2)	
<i>Performance Standards: By the end of grade eight students will:</i>	<i>Sample Alternate Performance Indicators: (1-3 per standard)</i>	<i>Sample Performance Activities/Tasks: (1-2 per indicator)</i>	<i>Sources of Data</i>
H.8.1. Evaluate the scientific evidence used in various media (for example, television, radio, Internet, popular press, and scientific journals) to address a social issue, using criteria of accuracy, logic, bias, relevance of data, and credibility of sources[3]	1. Establish parameters to evaluate the scientific evidence used in various media[3] 2. Evaluate the scientific evidence used in various media[3]	1.a. Create a check(3) 2.a. After viewing an advertisement, evaluate the use of scientific evidence through a checklist(3) 2.b. Compare the scientific evidence used in such things as two newspaper articles, radio announcements, or pictures using a Venn diagram or other organizational tool(2)	
H.8.2. Present scientific solution to a problem involving the earth and space, life and environmental, or physical sciences and participate in a consensus-building discussion to arrive at a group decision[3]	1. Choose a problem involving earth and space, life and environment, or physical sciences[3] 2. Present a scientific solution to the problem[3] 3. Participate in a group discussion to arrive at a decision[3]	1.a. Given several choices, select one problem to solve(2) 2.a. Using scientific knowledge or data, explain through words or visuals a solution to the problem(3/4) 3.a. Discuss the various solutions to the group problem to arrive at and report a group decision(3/4)	
H.8.3. Understand the consequences of decisions affecting personal health and	1. Identify decisions concerning personal health and safety[1]	1.a. Relate (through visuals) decisions the student has made or seen others make regarding personal health and safety (e.g., smoking, drinking, speeding, and exercise)(1)	

safety[1]	2. Understand the consequences of those decisions[1]	2.a. Match a decision with a likely consequence(2/3) 2.b. List consequences, both positive and negative, of their decisions	
<i>Performance Standards: By the end of grade twelve students will:</i>	<i>Sample Alternate Performance Indicators: (1-3 per standard)</i>	<i>Sample Performance Activities/Tasks: (1-2 per indicator)</i>	<i>Sources of Data</i>
H.12.1. Using the science themes and knowledge of the earth and space, life and environmental, and physical sciences, analyze the costs, risks, benefits and consequences of a proposal concerning resource management in the community and determine the potential impact of the proposal on life in the community and the region	1. Develop parameters to analyze a proposal 2. Analyze the community proposal 3. Determine the potential impact of a proposal	1.a. List issues used to analyze a proposal (e.g., costs, risks, benefits, and consequences) 2.a. Use the rubric/grading system to analyze a chosen proposal in the community 3.a. Create a word map or picture to show how the chosen proposal will change the community	
H.12.2. Evaluate proposed policy recommendations (local, state, and/or national) in science and technology for validity, evidence, reasoning, and implications, both short- and long-term	1. Identify ways to evaluate proposed policy 2. Evaluate a proposed policy recommendation	1.a. Brainstorm ways to evaluate validity, evidence, reasoning, and short- and long-term implications 2.a. Prepare a pro-and-con chart to evaluate a policy (e.g., the usefulness of having a computer in every classroom)	
H.12.3. Show how policy decisions in science depend on many factors, including social values, ethics, beliefs, timeframes, and considerations of science and technology	1. Show how decisions in science depend on many factors	1.a. Compare policy decisions in many countries 1.b. Compare the student's own experiences with those of the student's parents (e.g., medical practices)	
H.12.4. Advocate a solution or	1. Advocate a solution to a problem in	1.a. Given a problem, present a solution to other students	

combination of solutions to a problem in science or technology	science/technology	1.b. Choose the best solution to a problem, given various solutions	
H.12.5. Investigate how current plans or proposals concerning resource management, scientific knowledge, or technological development will have an impact on the environment, ecology, and quality of life in a community or region	1. Predict the impact of a current plan or proposal on the environment, ecology, and quality of life	1.a. Use before and after pictures to show what will happen to a community as a result of a proposal	
H.12.6. Evaluate data and sources of information when using scientific information to make decisions	1. Review data and sources of information used to make a decision 2. Evaluate the data and sources of information	1.a. Choose a personal decision (e.g., smoking or drinking) and list data and information used to make the decision 2.a. List data or sources used to make a decision and cite appropriate examples 2.b. Match appropriate sources of data and information with a decision	
H.12.7. When making decisions, construct a plan that includes the use of current scientific knowledge and scientific reasoning	1. Gather current scientific knowledge and scientific reasoning 2. Construct a plan to make a decision	1.a. Check various resources (e.g., computer, library, and newspaper) related to a potential decision 1.b. Given various resources, choose ones that relate to a potential decision 2.a. Construct and relate a plan to improve an area of the community	